

10/030,147  
Page 7**REMARKS**

The Office Action dated July 14, 2003 has been received and carefully noted.

The preceding amendments and the following remarks are submitted as a full and complete response thereto. Previously presented claims 7-13 have been renumbered by the Office as claims 8-14. Claims 8-14 have been amended and claims 15-24 have been added.

**Amendment to the Specification**

Applicants have amended the specification to incorporate a priority claim that was previously recognized by the Office (see, e.g., filing receipt of 7/19/02). Accordingly, applicants submit that an amendment of the specification without petition is proper (see OG Notice of 1/22/02).

***Rejection under 35 U.S.C. §112, second paragraph***

In paragraph 1, the Office rejects claim 13 (formerly claim 12) under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

In particular, the Office states that the claim is unclear as to Applicants' intent and recommends that the five listed anti-free radical agent combinations are presented in Markush group format.

10/030,147  
Page 8

In response, Applicants amended the claim as suggested by the Office.

***Rejection under 35 U.S.C. §103(a)***

In paragraphs 2 to 4, the Office rejects claims 8-12 and 14 under 35 U.S.C. §103(a) as being unpatentable over the combination of the abstracts DE 4419783 ('783), RU 0031447 ('447) and JP 407291838 ('838).

In particular, the Office notes that DE'783 teaches hair tonic using panax ginseng. The Office acknowledges that the abstract does not teach a combination of this active ingredient with other components. The Office also notes that RU'447 teaches shampoo using grape seed. The Office acknowledges that the RU'447 abstract does not teach the combination of grape seed extract with two other ingredients. Finally, the Office notes that JP'838 teaches ascorbic acid for hair care and treatment.

The Office alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made to prepare the claimed compositions by combining the disclosed ingredients for hair care treatment with a reasonable expectation of success. The Office further alleges that the motivation to combine the references flows logically from the art since the components of the claimed composition have been used individually in hair care treatment. The Office alleges that a showing of

10/030,147  
Page 9

unexpected and superior results of the combination of the claimed ingredients is necessary to overcome this obviousness rejection.

Applicants' invention is drawn to a hair care composition comprising at least three anti-free-radical agents. Applicants agree that each of the three cited prior art references ('783, '447 and '838) disclose a hair care composition comprising one of the anti-free radical agents that the present invention uses in combination. However, Applicants respectfully submit that the required motivation to combine the ingredients as presently claimed is lacking. There is nothing in the cited references teaching or suggesting the combination as claimed. With respect to the Office allegation that the motivation to combine the ingredients flows "logically" from the art, Applicants submit that it is well established that the fact that references can be combined or modified or that the claimed invention is within the capabilities of one of ordinary skill in the art is not sufficient to support a prima facie case of obviousness (MPEP §2143.01). If anything, the prior art suggests that the ingredients in question, that is, panax ginseng ('783), grape seed ('447) and ascorbic acid ('838), are alternatives, but does not suggest combining two, or still less all three, of the individual agents.

Moreover, the combination of ingredients as presently claimed offers unexpected and surprising results. These results are detailed in the enclosed Declaration by Stewart Paul Long, one of the inventors of the present invention.

10/030,147  
Page 10

Mr. Long has considerable experience of haircare products, and in particular in the use of anti-oxidants (anti-free radical agents) in such products. In his Declaration, Mr. Long describes various measurements, both *in vitro* and *in vivo*, that were carried out using (i) single anti-oxidants and (ii) combinations of anti-oxidants as claimed in the present invention. The results of these investigations are described in detail, in particular, in Section 11 of the Declaration.

Section 10.1 shows how four compositions prepared in accordance with Examples 1, 8, 15 and 16 of the present application protect hair from lipid hydroperoxide formation and compares the results with corresponding compositions devoid of the claimed combinations of anti-free radical agents.

Figures 1 and 2 of the Declaration (described in Sections 10.2 and 10.3) show that lipid hydroperoxide formation can be brought about by light irradiation and by heat styling and that prevention of such lipid hydroperoxide formation is indicative of a genuine benefit in the normal use of a hair care product. Sections 10.4 and 10.5 of the Declaration confirm that the claimed combination of anti-free radical agents afforded substantial protection, even when quite an aggressive drying regime was used.

Sections 11 of the Declaration shows that the claimed combinations exhibit synergistic effects. In Section 11.1, the % inhibition of lipid peroxidation observed for several such combinations is compared with the effects that would be expected on the basis of the properties of the individual components alone. In all cases, the observed

10/030,147  
Page 11

effect is considerably greater than that which would be predicted. Similar results, for another series of experiments, are described in Section 11.2.

Figures 5, 6 and 7 of the Declaration show graphically the synergistic effect of a wide variety of combinations and compares them with the results of individual anti-free radical agents. Similar results, from a yet further series of experiments, are set out in the table on page 10 of the Declaration.

Synergistic effects have been demonstrated for all of the following combinations of anti-free radical agents.

Rosmarinus officinalis / Panax ginseng / Ascorbyl Phosphate

Panax ginseng / Morus alba / Ascorbyl phosphate

Rosmarinus officinalis / Morus alba / Ascorbyl phosphate

Morus alba / Origanum vulgare / Panax ginseng

Grapeseed / Origanum vulgare / Panax ginseng

Rosmarinus officinalis / Origanum vulgare / Panax ginseng

Ascorbyl Phosphate / Origanum vulgare / Morus alba

Panax ginseng / Origanum vulgare / Ascorbyl Phosphate

Origanum vulgare / Ascorbic acid ester / Panax ginseng

Ascorbyl phosphate / Morus alba / Grape seed

10/030,147  
Page 12

Ascorbic acid ester / Grape seed / Rosmarinus officinalis

Rosmarinus officinalis / Origanum vulgare / Grape seed

Ascorbyl phosphate / Origanum vulgare / Rosmarinus officinalis

Ascorbic acid ester / Origanum vulgare / Morus alba

As can be seen from paragraph 15 of the declaration, Mr. Long concludes that he does not believe that the synergistic effects demonstrated by the experiments he describes could have been predicted from the properties of the individual anti-free radical agents or from the prior art. He also concludes that, in the light of the wide variety of combinations for which a synergistic effect has been demonstrated, and in view of the fact that all of the anti-free radical agents listed in the claims of the application occur in at least one of the combinations for which synergy has been demonstrated, it is reasonable to expect that other combinations falling within the scope of the claims would exhibit similar properties.

In view of the above remarks, the Applicants respectfully submits that each of claims 8-24 are in condition for allowance.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

10/030,147

Page 13

In the event that this paper is not timely filled, the Applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account No. 02-2135.

Respectfully submitted,

By Joyce V. Natzmer  
Joyce von Natzmer, Reg. No. 48,120  
Attorney for Applicant  
Rothwell, Figg, Ernst & Manbeck, P.C.  
Suite 800, 1425 K Street, NW  
Washington, D.C. 20005  
Telephone: (202) 783-6040  
Facsimile: (202) 783-6031

2940-108.amd